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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,605	02/05/2002	Michael J. Renn	ODC2000-1-CIPB	1467
5179	7590	04/18/2005	EXAMINER	
PEACOCK MYERS AND ADAMS P C			HUFFMAN, JULIAN D	
P O BOX 26927			ART UNIT	
ALBUQUERQUE, NM 871256927			PAPER NUMBER	
			2853	

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/072,605	Applicant(s) RENN, MICHAEL J.	
	Examiner Julian D. Huffman	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7-13 and 17-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,8,11-13,17,18,21,22,24,26-28 and 30 is/are rejected.
- 7) ☒ Claim(s) 9,10,19,20,23,25 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/21/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include any of the reference signs mentioned in the description. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 7, 8, 11, 17, 18, 26, 27 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Thaler (U.S. 5,814,152).

Thaler discloses an apparatus comprising:

a material source means for supplying a material to be deposited (30a, column 11, lines 43-45);

an atomization means for producing a plurality of discrete particles from said material source means (laser 20, column 6, lines 10-17);

a force application means for propelling said plurality of discrete particles generally toward a substrate (laser 20, column 5, line 64-column 6, line 2);

a collimation means for controlling the direction of flight of said plurality of discrete particles (laser 20, column 6);

wherein said force application means comprises a carrier gas (column 5, lines 40-51) and a laser (20) which processes the discrete particles;

With regards to claims 11, 17, 18, 27 and 30, Thaler discloses a method of performing the functions discussed previously in the means plus function claim limitations and further discloses a step of extracting excess carrier gas without substantially reducing the number of said discrete particles (column 10, line 61- column 11, line 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 12, 13, 21, 22, 24 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over anticipated by Thaler in view of Ogren et al. (U.S. 4,689,052).

Thaler discloses everything claimed with the exception of a virtual impactor.

Ogren et al. disclose a virtual impactor (10) that sorts particles by size and carries the particles after sorting (column 4, line 65-column 5, line 2 and column 6, lines 60-63). Additionally, Ogren et al. does not limit the use of the virtual impactor (column 8, lines 56-60).

The combination teaches placing the virtual impactor after the atomization means since the particles must be produced before they can be manipulated.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the virtual impactor of Ogren et al. in the invention of Thaler for the purpose of providing a means to control the size of the particles (column 6, lines 60-64).

Response to Arguments

6. Applicant's arguments filed 31 January 2005 have been fully considered but they are respectfully not deemed persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., means for making the particles parallel) are not recited in the rejected claim(s).

The claim language recites "collimation means for controlling the direction of flight".

Further, page 13 of the disclosure, states that:

“Figure 1 exhibits another embodiment of the invention, which employs a laser and a lens 14 to direct optical energy into a cloud of discrete particles produced by the atomizer 12. This optical energy propels the particles in a desired direction of flight.

Alternative embodiments may incorporate some other energy source to apply force to the particles. Any device which imparts energy *to control the direction and speed of the* particles could be used in the invention, including devices which generate heat or which produce electromagnetic or other fields that are capable of controlling a stream of particles.

In addition to means to apply force 14 to the discrete particles, the invention utilizes some means *of collimation 16 to control, regulate, or limit the direction of flight of the discrete particles.*”

Applicant provides a dictionary definition which defines the term collimate as “to make parallel”, however office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure, *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ 2d 1023, 1027-28 (Fed. Cir. 1997), and applicant’s disclosure *and claim language* explicitly uses language which suggests a broader interpretation of the term collimate or collimation.

Applicant should explicitly provide the language parallel in the claims since, "...during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous", *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ 2d 1320, 1322 (Fed. Cir. 1989).

Allowable Subject Matter

7. Claims 9, 10, 19, 20, 23, 25 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 9:30a.m.-6:00p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JH
4/8/05


K. FEGGINS
EXAMINER 4/05